

#### 4. BREEDING OF CAPTIVE RETICULATED PYTHON *BROGHAMMERUS RETICULATUS* FROM THE NICOBAR ISLANDS

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##### Introduction

*Broghammerus reticulatus* is a species of python found in Southeast Asia. Adults can grow over 8.7 m in length, being the average about 3-6 m, and are the world's longest snakes (Murphy and Henderson 1997). It is distributed over Southeast Asia from the Nicobar Islands, Bangladesh, Myanmar, Thailand, Laos, Cambodia, Vietnam, Malaysia and Singapore, east through the Indo-Australian Archipelago and the Philippines (McDiarmid *et al.* 1999) in evergreen forests, and is semi-aquatic in habit. It largely feeds on small mammals, birds and reptiles. It occasionally feeds on medium-sized mammals like wild pig, monkey, deer (Shine *et al.* 1999). It lays eggs in a large clutch, between 15 and 80 eggs per clutch (Mattison 1999). The mother python exhibits considerable parental care till the eggs are hatched.

##### Methods

This study was carried out during 2010 at Mini Zoo, Haddo, Port Blair. An adult healthy pair was selected for breeding. The male was 2.4 m long and female was 3.6 m long. Both the animals originate from the Great Nicobar Island.

**Great Nicobar Island:** The Great Nicobar Island is the southernmost island of Andaman and Nicobar archipelago. It is situated between 6°45'-7°15' N and 93°38'-93°55' E, lies about 482 km south of Port Blair and about 145 km north of Sumatra. The Island includes the Great Nicobar Biosphere Reserve, Campbell Bay and Galathea National Park. This area is known for its unique biodiversity and bears rich genetic germplasm resources. The Great Nicobar Island represents the tropical rainforest in Andaman and Nicobar Islands. The vegetation is mainly tropical evergreen forest of Indo-Malayan biogeographic region. It houses 650 species of angiosperms, ferns and gymnosperms. The tree fern *Cyathea albosetacea* is dominant in many parts of the Island. Other important plant species are *Scaevola sericea*, *Heritiera littoralis*, *Pandanus* spp., *Terminalia bialata*, *Barringtonia pendula*, *Rhizophora* spp., *Gnetum gnemon*, *Sterculia macrophylla*, *Elaeocarpus aristatus* (Sinha 1999). The important faunal elements of the island include the Long-tailed Macaque *Macaca fascicularis*, Nicobar Treeshrew

*Tupaia nicobarica*, Nicobar Megapode *Megapodius nicobariensis*, Great Nicobar Serpent-eagle *Spilornis klossi*, Nicobar Pigeon *Caloenas nicobarica*, Nicobar Parakeet *Psittacula caniceps*, Edible-nest Swiftlet *Aerodramus fuciphagus*. It is also the habitat of two tribes of Indo-Mongoloid stock, namely the Nicobarese and Shompen (Tikader and Das 1985).

**Breeding enclosure:** The breeding pair was kept in a 3 m x 3 m x 3 m concrete room, the front was covered with toughened glass pane and wire mesh. The glass pane was provided to avoid accidental injury to the animal on hitting the wire mesh. The top of the room was thatched with dried leaves to facilitate diffused sunlight into the cage. About 45 per cent of the cage was under partial shade. The cage was provided with dead sturdy branches and a concrete waterhole to facilitate comfortable stay of the animal.

**Food:** The pair was fed with live animals, e.g., domestic fowl, weighing 1.5 kg, every fortnight.

##### Results and Discussion

The female was introduced into the male's enclosure in the first week of October 2009; courtship and mating was observed from the third day. Mating continued till January. The highest mating frequency was observed during December and January. Mating was observed on 10 occasions, during morning, evening, and night; copulation ranged from 25 to 30 minutes.

**Gestation period, clutch and egg size:** The gestation period was considered from the date of last mating to the date of egg laying. The last mating was observed on January 12, 2010, and five eggs were laid on April 02, 2010. The average egg length was 10.6 cm and weight 210 gm (Table 1). All the eggs were incubated by the female in the enclosure; the incubation period was 72 days. The temperature in the enclosure ranged from 31 to 32 °C and humidity from 80 to 90 per cent. The gestation period lasted for 81 days.

During the incubation period, the female completely avoided food and was observed quivering. Cage shade was increased from 45 per cent to 60 per cent in February and March 2010; water was sprayed on the roof to provide relief against rising temperatures.

Table 1: Egg measurements of *Brogghammerus reticulatus*

| Batch No. | Egg layed  | Clutch size | Average length (cm) | Average width (cm) | Average weight (gm) | Incubation period (days) |
|-----------|------------|-------------|---------------------|--------------------|---------------------|--------------------------|
| 1         | 02.iv.2010 | 5           | 10.6                | 6.3                | 210                 | 72                       |

Out of five eggs, only two hatched; both the hatchlings were marked. Their average total body length (head to tail) was 70 cm and weight 39 gm. The growth of body length of hatchlings varied between individuals. The growth of the two hatchlings was measured: hatchling number 1 and 2, on 20.vi.2010 (80 cm, 60 cm), 10.x.2010 (84 cm, 71 cm), 10.xi.2010 (86 cm, 72 cm), respectively.

During the present study, mating was observed from December to January, which indicates that the temperature influences the reproductive activity of this species. The observed period of mating was similar to *Python molurus* (Ross and Marzec 1990). The gestation period of 81 days was more than *Python molurus* (Dattatri 1990; Ross and Marzec 1990). The variation in weight and size of hatchlings may be due to varying temperatures during the incubation period. According to Vineger (1973), temperature not only

affects metabolic activity in ectothermic animals, but also plays a vital role in the development of embryos. The captive management of Reticulated Python emphasizes that if certain basic parameters and individual care are provided to the species breeding can be successful.

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### 5. NEW RECORD OF TWO SPECIES OF EELS OF THE GENUS *GYMNOTHORAX* (MURAENIDAE) IN DIGHA COAST OF INDIA

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Marine eels of the family Muraenidae are a large group in the Indian waters. There are reports of 35 species under eight genera belonging to Family Muraenidae reported in Indian waters. Out of this, 22 species belong to the Genus *Gymnothorax*. So far, only three species have been recorded in the coastal area of Digha (Chatterjee *et al.* 2000). Several efforts were made to inventory marine and estuarine fishes of

Digha (Manna and Goswami 1985; Goswami 1992; Talwar *et al.* 1992). Consistent efforts were also made by the Marine Aquarium & Regional Centre, Zoological Survey of India (ZSI), Digha, to update this data by adding recent occurrences. Being the largest public aquarium of the ZSI, efforts are being taken to maintain the diversity of tank exhibits. During the collection of live fishes for exhibition, the authors encountered